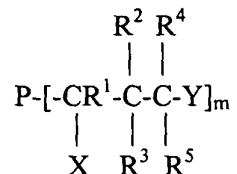


I claim:

A. A gamma hydroxy primary carbamate comprising one or more structures of the formula:



wherein

X and Y are either a primary carbamate group or a hydroxyl group but are not the same,

m is a number from 2 to 50,

R¹, R², R³, R⁴, and R⁵ are each at least one of H, an alkyl group, a heteroatom containing group, or mixtures thereof, and

P is at least one hydrocarbon based member selected from a compound, an oligomer or polymer having more than 6 carbon atoms.

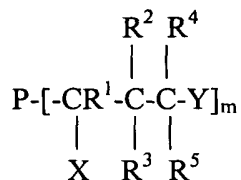
2. The gamma hydroxy primary carbamate of claim 1 wherein X is a primary carbamate group.
3. The gamma hydroxy primary carbamate of claim 1 wherein X is a hydroxyl group.
4. The gamma hydroxy primary carbamate of claim 1 wherein m is at least 3.
5. The gamma hydroxy primary carbamate of claim 1 wherein m is at least 4.
6. The gamma hydroxy primary carbamate of claim 1 wherein m is about 4 to about 30.

7. The gamma hydroxy primary carbamate of claim 1 wherein each of R¹, R², R³, R⁴, and R⁵ are H.
8. The gamma hydroxy primary carbamate of claim 1 wherein one or more of R¹, R², R³, R⁴, and R⁵ are selected from alkyl groups having from 1 to 4 carbons.
9. The gamma hydroxy primary carbamate of claim 8 wherein one or more of R¹, R², R³, R⁴, and R⁵ are selected from alkyl groups having from 1 to 2 carbons.
10. The gamma hydroxy primary carbamate of claim 1 wherein each of R¹, R², R³, R⁴, and R⁵ are free of any heteroatom containing groups.
11. The gamma hydroxy primary carbamate of claim 1 wherein P is a compound.
12. The gamma hydroxy primary carbamate of claim 1 wherein P is a polymer or oligomer.
13. The gamma hydroxy primary carbamate of claim 12 wherein P is a polymer.
14. The gamma hydroxy primary carbamate of claim 13 wherein P is a polymer selected from the group consisting of acrylic polymers, polyurethane polymers, and polyester polymers.
15. The gamma hydroxy primary carbamate of claim 14 wherein P is an acrylic polymer.
16. The gamma hydroxy primary carbamate of claim 15 wherein P comprises heteroatom containing groups.
17. The gamma hydroxy primary carbamate of claim 16 wherein P comprises on average per molecule, one or more heteroatom containing groups selected from

the group consisting of acid groups, ester groups, amide groups, ether groups, urethane groups, epoxy groups, hydroxyl groups, and mixtures thereof.

18. A film-forming composition comprising

(I) a gamma hydroxy primary carbamate comprising one or more structures of the formula:



wherein

X and Y are either a primary carbamate group or a hydroxyl group but are not the same,

m is a number from 1 to 50,

R¹, R², R³, R⁴, and R⁵ are each at least one of H, an alkyl group, a heteroatom containing group or mixtures thereof, and

P is at least one hydrocarbon based member selected from a compound, an oligomer or polymer having more than 6 carbon atoms., and

(II) a crosslinking component having one or more functional groups reactive with at least one of X or Y of gamma hydroxy primary carbamate functional compound (I).

19. The film-forming composition of claim 18 comprising the gamma hydroxy primary carbamate wherein m is at least 4.

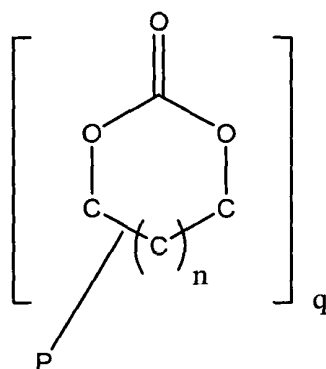
20. The film-forming composition of claim 19 comprising the gamma hydroxy primary carbamate wherein m is about 4 to about 30.

21. The film-forming composition of claim 18 comprising a crosslinking component selected from the group consisting of aminoplasts, isocyanate functional crosslinking agents, blocked isocyanate functional crosslinking agents, acid

functional crosslinking agent, anhydride functional crosslinking agent, epoxy functional crosslinking agent, and mixtures thereof.

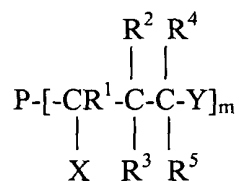
22. The film-forming composition of claim 18 comprising a crosslinking component selected from the group consisting of aminoplasts, isocyanate functional crosslinking agents, blocked isocyanate functional crosslinking agents, and mixtures thereof.

23. A method of making a gamma hydroxy primary carbamate functional material, comprising
 providing a starting material comprising two or more cyclic carbonate groups (bi)
 and of the structure:



wherein n is 1, q is a number from 2 to 50, and P is a hydrocarbon based material selected from the group consisting of compounds, oligomers, and polymers having more than 6 carbon atoms, and

reacting at least one cyclic carbonate functional group (bi) with ammonia to provide a gamma hydroxy primary carbamate group of the structure:



wherein X and Y are either a primary carbamate group or a hydroxyl group but may not be the same, m is a number from 2 to 50, R^1 , R^2 , R^3 , R^4 , and R^5 are each at least one of H , an alkyl group, a heteroatom containing group, or mixtures thereof, and P is at least one

hydrocarbon based member selected from a compound, an oligomer or polymer having more than 6 carbon atoms.

24. The method of claim 23 wherein q is at least 4.